

Bio Roadshow 2016

Brookings, SD

The bioscience industry is divided into five different subsectors:

- Agricultural Feedstock and Chemicals
- Bioscience-Related Distribution
- Medical Devices and Equipment
- Drugs and Pharmaceuticals
- Research, Testing, and Medical Laboratories

Gross Domestic Product

Gross Domestic Product data is only available down to a 3-digit NAICS level where the data we use to define the bio industry is pulled on a 6-digit NAICS level. To pull GDP numbers even at the 3-digit NAICS level will greatly overstate the economic impact of the biosciences in South Dakota.

Employment

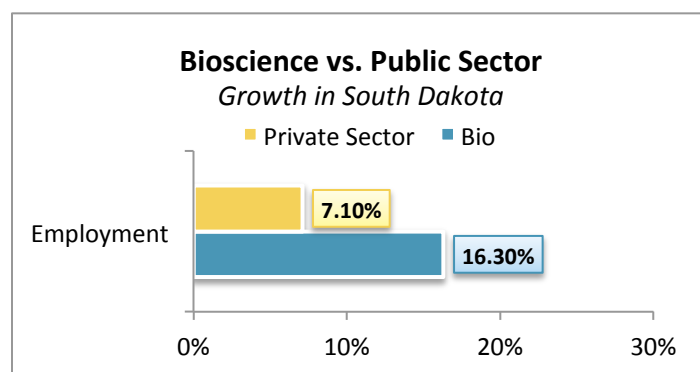
Using the Bio.org definition of the biosciences¹ the bioscience industry in South Dakota employs nearly 5,800 people.

This employment estimate includes ALL occupations within the industry such as administrative, management, or manufacturing occupations as well as key bioscience STEM occupations.

Employment in the bioscience industry in South Dakota has grown 16.3% since 2010 and is outpacing the nation's growth (3.1%) during the same time period.

U.S.
1,655,680
Employees

S.D.
5,787
Employees



Not only are bioscience jobs growing in South Dakota, but bio employment growth is outpacing South Dakota's private sector.

Employment within the biosciences is specialized in three bioscience subsectors in South Dakota. They are specialized because they have a higher than average concentration of employees (location quotient or LQ) when compared to the nation:

- Agricultural Feedstock and Chemicals – 3.57 LQ
- Bioscience-Related Distribution – 2.02 LQ

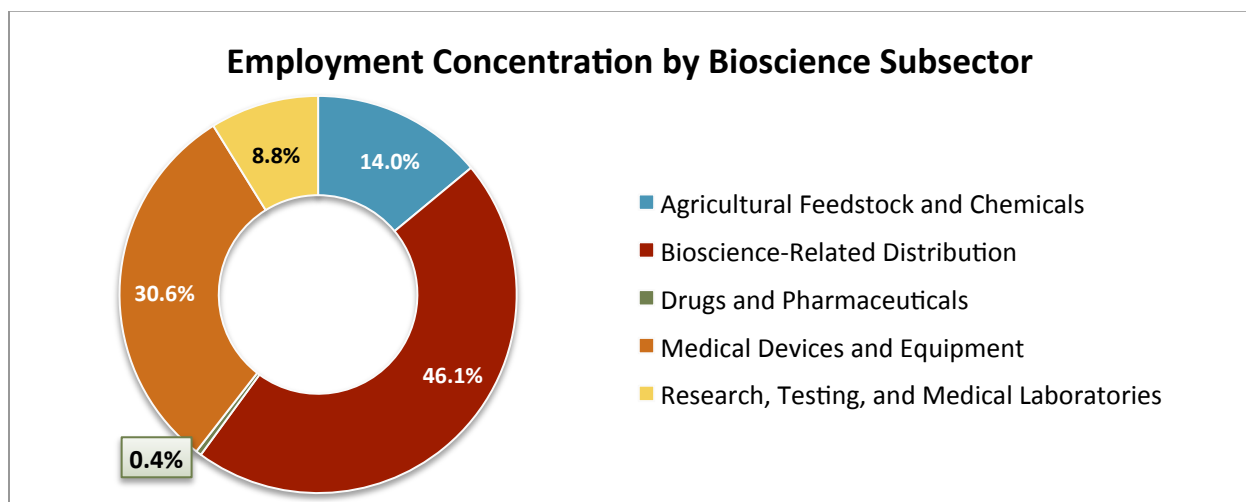
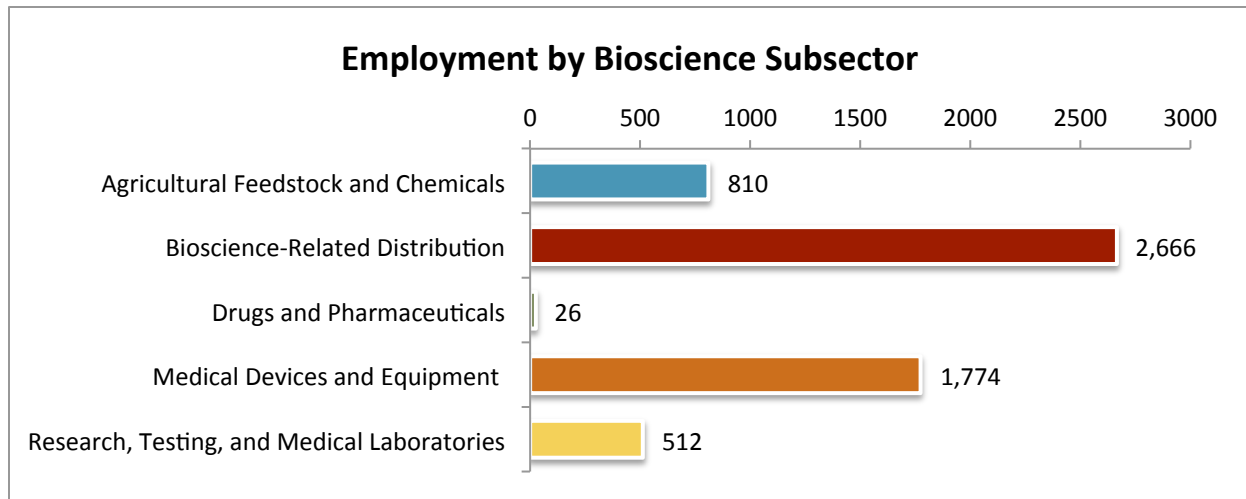
¹ As defined in the bi-annual industry study published by Batelle/BIO and most recently TEconomy/BIO report.

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- Medical Devices and Equipment – 1.74 LQ

Following is a breakout of employment by the bioscience subsectors.



Brookings, SD

Comparable bioscience employment figures for Brookings are not available because of population levels and the need to maintain confidentiality. But we can estimate the number of people employed in **key bioscience occupations²** in the Brookings area:

² Key bioscience occupations are STEM occupations focused on the science aspect of bioscience and are a portion of the total bioscience industry employment. These occupations do not include administrative, management, or manufacturing occupations.

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Occupational Category	Employees
Agricultural, Food and Nutrition Scientists and Technicians	210
Biological Scientists and Technicians	110
Medical and Clinical Laboratory Technicians	130
Total	450

Projected Occupational Growth

By 2024 **key bioscience occupations** are expected to grow by 11.3%, adding an additional 359 jobs. Growth will occur most prominently among:

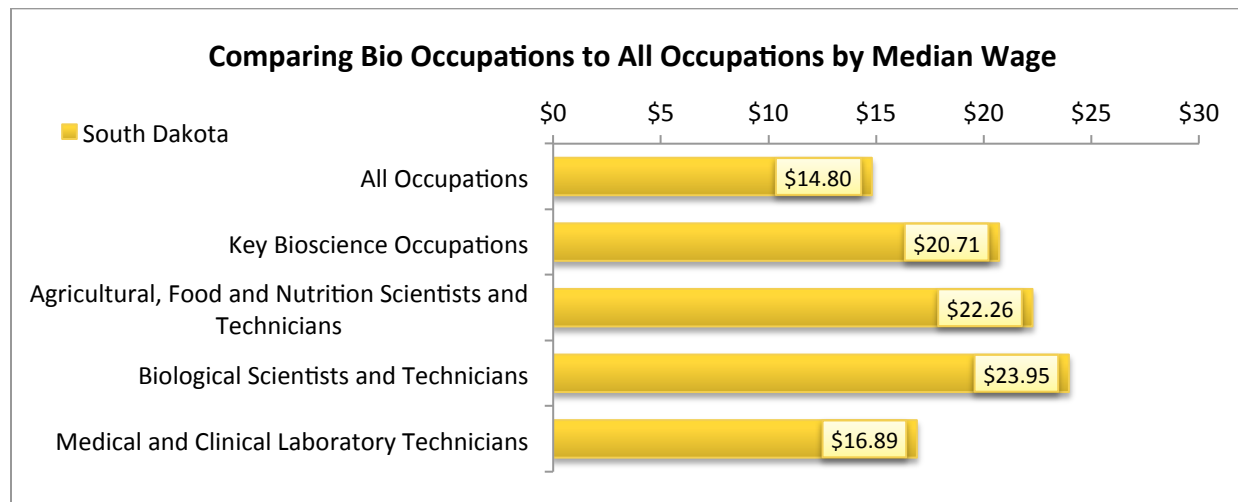
- Soil and plant scientists
- Medical and clinical laboratory technologists
- Medical and clinical laboratory technicians
- Biological technicians

S.D.
359
New Jobs
By 2024

A complete list of projections by bioscience occupation is available in the appendix.

Median Wages

The median hourly wage of key biotech occupations in South Dakota is \$20.71, nearly 140% of all occupations in South Dakota combined.



A detailed list of key occupations is highlighted in the appendix.

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Brookings

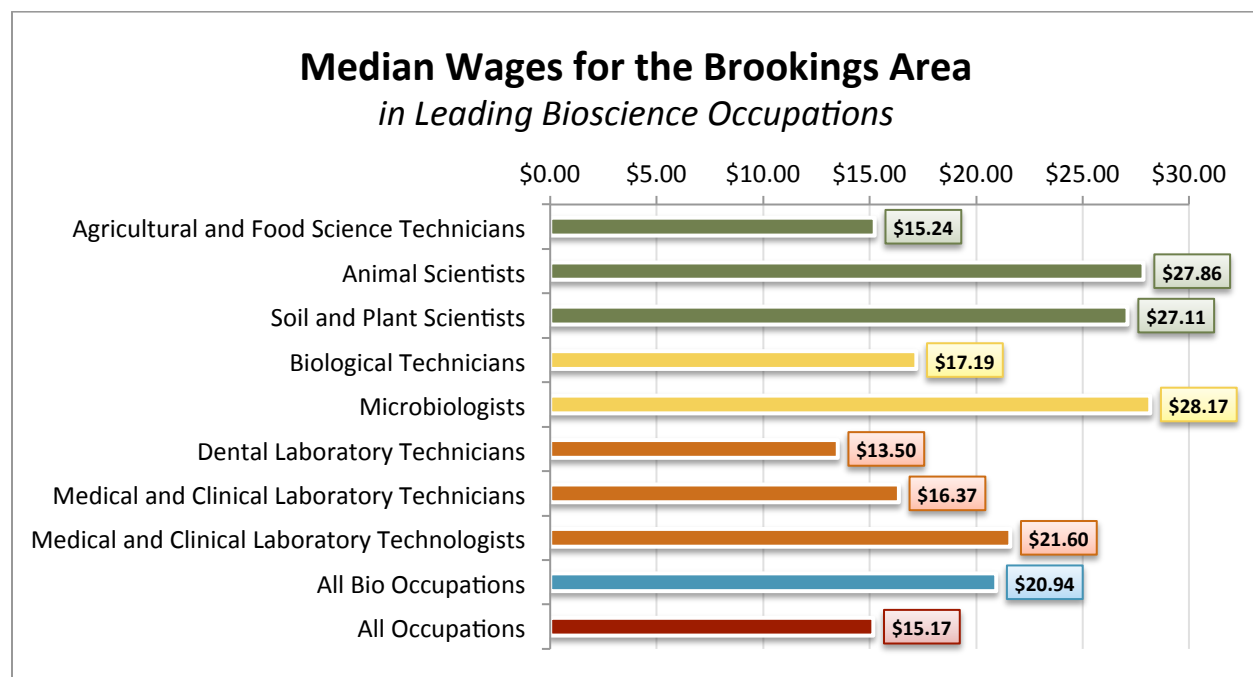
The Brookings area has a high concentration of *Agricultural, Food and Nutrition Scientists and Technicians, Biological Scientists and Technicians, and Medical and Clinical Laboratory Technicians*. No doubt, this is due to the presence of South Dakota State University and the many ongoing research efforts they are involved with.

Overall, leading bioscience occupations in the Brookings area range from an entry wage of \$16.59 to an experienced wage of \$23.59. The median wage for the area, in the biosciences is \$20.94.

Occupational Category	Median Wage
Agricultural, Food and Nutrition Scientists and Technicians	\$22.51
Biological Scientists and Technicians	\$22.68
Medical and Clinical Laboratory Technicians	\$17.16

Source: SD Dept of Labor, Labor Market Information Center, Wages by Occupation by 3-digit NAICS Code, May 2014 Wage Estimates Aged to September 2015.

The wages below are color-coordinated to match with the occupational category in the previous table.



Several bio occupations have been suppressed for confidentiality purposes.

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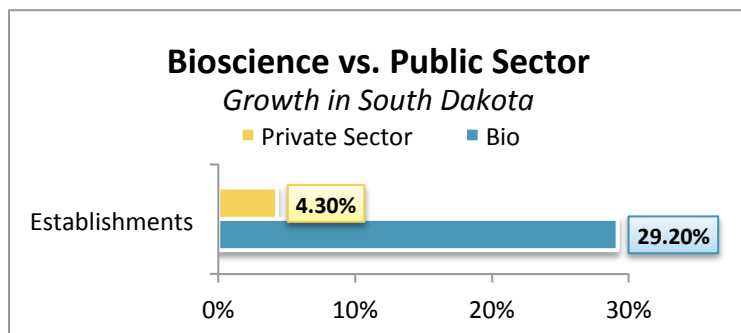
Establishments

Approximately 420 bioscience companies call South Dakota home. The number of bioscience companies in South Dakota has increased 29.2% since 2010, significantly outpacing the nation's growth of 10.4% for the same time period.

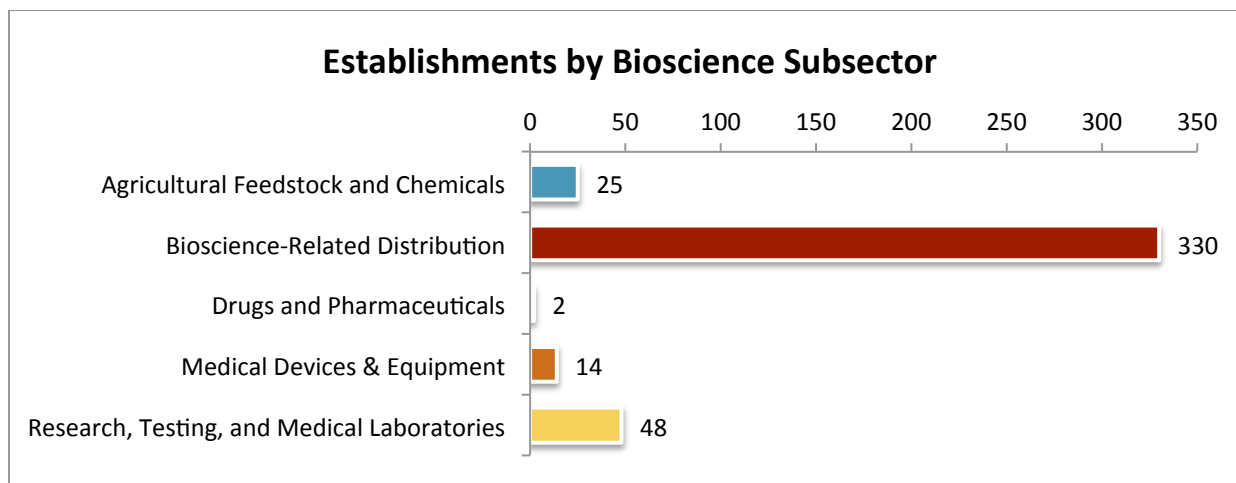
South Dakota's bio industry also outpaced the rate of growth in the public sector, growing nearly seven times faster.

U.S.
77,283
Bio
Companies

S.D.
420
Bio
Companies



A breakout of bioscience companies by subsector is provided below.



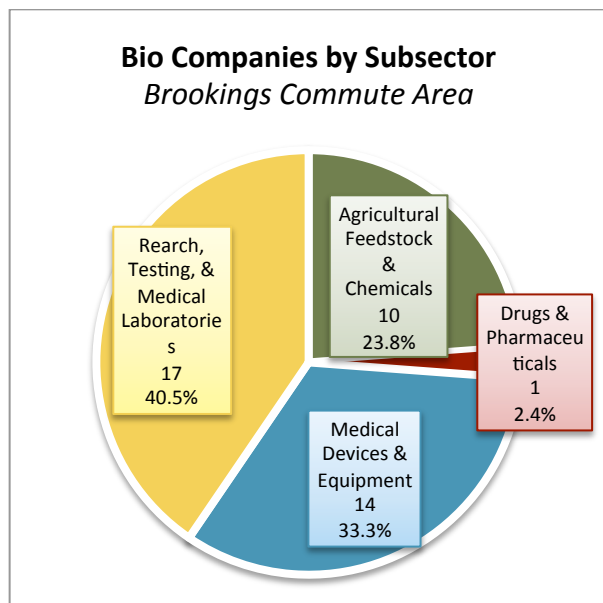
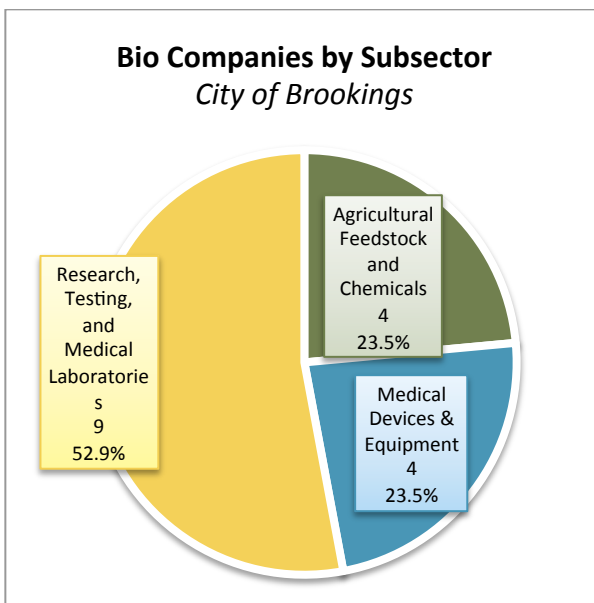
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Brookings Area

Seventeen bioscience companies are located in Brookings, SD. An additional 25 Bio companies are located within the Brookings commute area.

Company	Employee Range	Year	Products
3M	500-999	1971	Surgical Appliances and Supplies
Alltech Biotechnology Center	10-24	1998	R&D in Biotechnology
Chronix Biomedical		2006	Testing laboratories
Falcon Plastics, Inc	200-499	1975	Components for medical devices
GAEA, Inc	1-9		R&D in Biotechnology
Identity Genetics, Inc			Testing laboratories
Medgene Labs	1-9	2011	R&D in Biotechnology
Midwest Micro-Tek, LLC	1-9	1973	Bare Printed Circuit Board
Novita Nutrition, LLC	1-9	2011	Other Oilseed Processing
Prairie Aqua Tech	25-49	2009	Aquaculture Feeds & Health Supplements
Quality Tool, Inc	50-99	1991	Components for medical devices
RTI, LLC	10-24		Testing laboratories
SGS Seed Services	50-99	1993	Testing laboratories
South Dakota Agricultural Laboratories			Testing laboratories
Sterling Technology	24-49	1987	Human & Animal Nutrition Supplements
Syngenta Seeds, Inc	1-9		Testing laboratories
Tranzderm Solutions			R&D in Biotechnology



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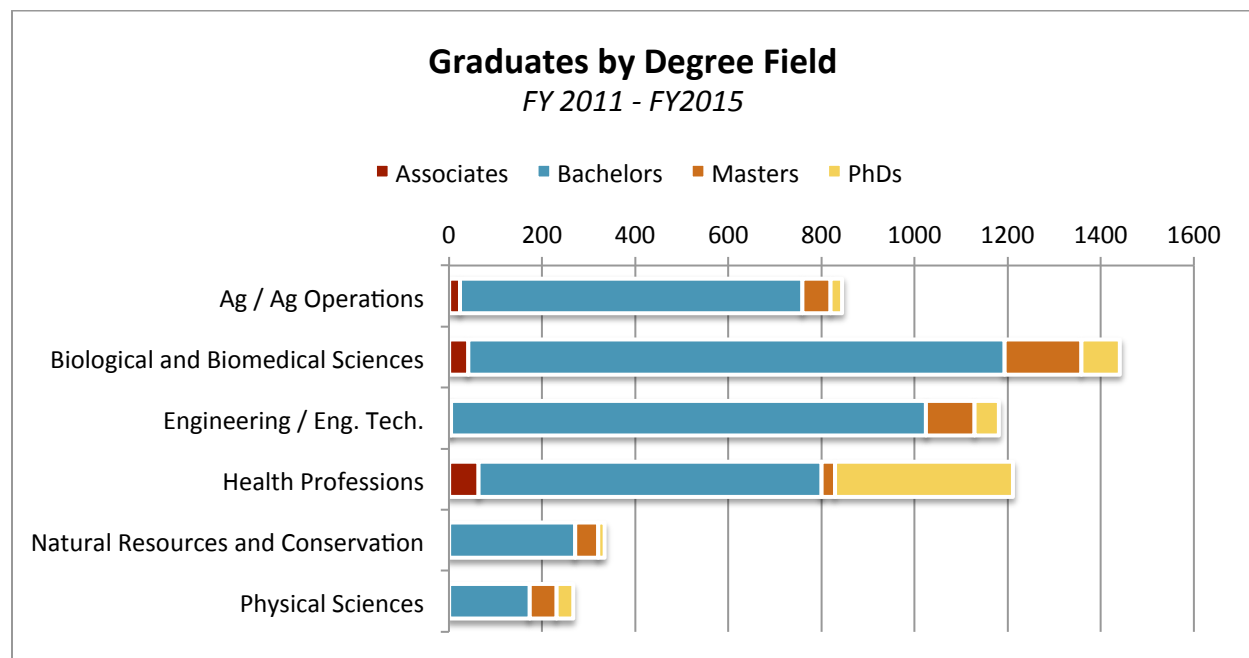
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Graduates

South Dakota produces the 6th highest concentration of graduates in bioscience-related degree programs in the nation. Our university system offers five certificate, 12 associate, 48 bachelors, 26 masters and 30 Ph.D. programs in bioscience-related fields. Degrees include animal science, biotechnology, microbiology, biochemistry, integrative genomics, plant science, chemical & biological engineering, and many more.

In the past five years more than 5,200 students have graduated from the South Dakota public university system in degree field's key to the biosciences.

Degree Field	Associates	Bachelors	Masters	PhD
Agriculture, Agriculture Operations	24	735	61	25
Biological and Biomedical Sciences	41	1152	165	83
Engineering / Engineering Technologies	5	1,020	104	52
Health Professions	64	736	29	382
Natural Resources and Conservation	NA	271	50	14
Physical Sciences	NA	173	58	36
Total Graduates	134	4,087	467	592



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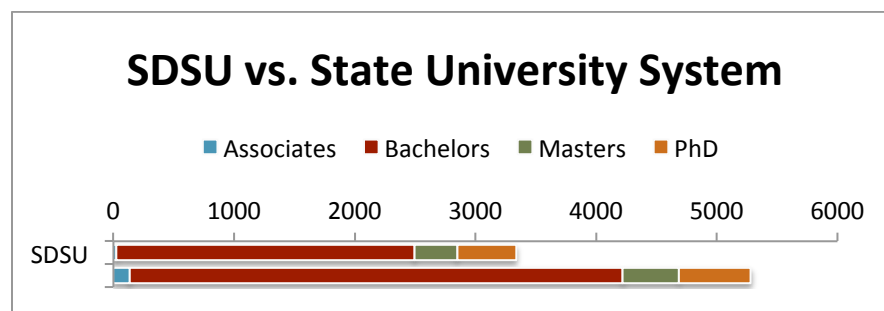
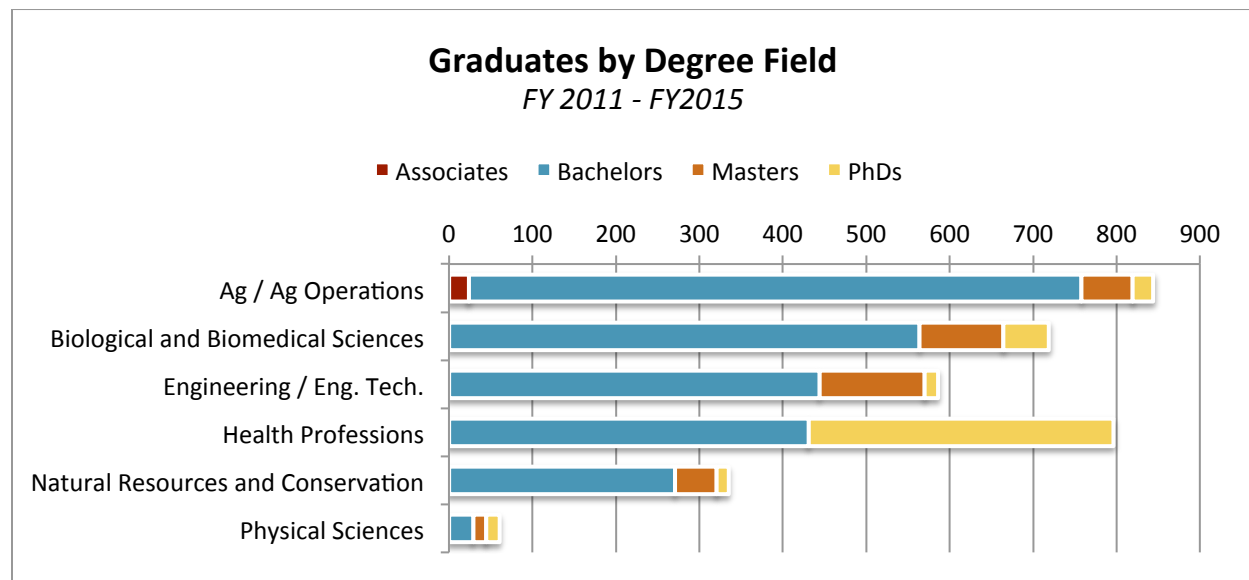
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Graduates in Brookings at SDSU

South Dakota State University offers 1 associate, 20 bachelors, 9 masters and 9 Ph.D. programs in bioscience-related fields. SDSU also has the most ag-centric focus among South Dakota's university system. Degrees include animal science, agronomy, agricultural science, biotechnology, microbiology, biochemistry, plant science, wildlife and fisheries science, and many more.

In the past five years more than 3,300 students have graduated from South Dakota State University in degree field's key to the biosciences. SDSU is the largest producer of graduates for the biosciences, responsible for 63.3% of bio-related graduates.

Degree Field	Associates	Bachelors	Masters	PhD
Agriculture, Agriculture Operations	24	734	61	25
Biological and Biomedical Sciences	NA	564	100	55
Engineering / Engineering Technologies	NA	444	126	16
Health Professions	NA	431	NA	365
Natural Resources and Conservation	NA	271	50	14
Physical Sciences	NA	29	16	16
Total Graduates	24	2,473	353	491



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Appendix

Occupational Projections

Occupation	2024 Projected Employment	2014-2024 Employment Change	Total Percent Change
Agricultural and Food Science Technicians	396	41	11.6%
Agricultural and Food Scientists	NA	NA	NA
Animal Scientists	158	24	17.9%
Soil and Plant Scientists	615	79	14.7%
Microbiologists	133	15	12.7%
Biological Scientists, All Other	107	3	2.9%
Epidemiologists	*	*	*
Medical Scientists, Except Epidemiologists	162	17	11.7%
Biological Technicians	376	30	8.7%
Biochemists and Biophysicists	*	*	*
Biomedical Engineers	*	*	*
Medical and Clinical Laboratory Technologists	813	72	9.7%
Medical and Clinical Laboratory Technicians	447	42	10.4%
Dental Laboratory Technicians	146	19	15.0%
Medical Appliance Technicians	40	2	5.3%
Ophthalmic Laboratory Technicians	133	15	12.7%
Total	3,526	359	11.3%

**Data was suppressed for confidentiality.*

Source: SD Dept. of Labor, Labor Market Information Center, Occupational Projections in South Dakota 2014-2024.

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Median Wages

